

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	1036968	(conduit or pathway or pipe or pipeline or passage or channel or tube).clm.	US-PGPUB; USPAT; USOCR	ADJ	ON	2008/10/09 13:52
L2	11921	reform\$5.clm.	US-PGPUB; USPAT; USOCR	ADJ	ON	2008/10/09 13:52
L3	110597	(shift or wgs).clm.	US-PGPUB; USPAT; USOCR	ADJ	ON	2008/10/09 13:52
L4	156803	cataly\$7.clm.	US-PGPUB; USPAT; USOCR	ADJ	ON	2008/10/09 13:52
L5	56322	(heat exchang\$5).clm.	US-PGPUB; USPAT; USOCR	ADJ	ON	2008/10/09 13:53
L6	178827	(coil\$4 or serpentine).clm.	US-PGPUB; USPAT; USOCR	ADJ	ON	2008/10/09 13:53
L8	871081	(separat\$4 or evaporat\$4 or vaporiz\$4 or boil\$4).clm.	US-PGPUB; USPAT; USOCR	ADJ	ON	2008/10/09 13:53
L9	467310	(water or steam).clm.	US-PGPUB; USPAT; USOCR	ADJ	ON	2008/10/09 13:53
L10	396546	(arm or extension).clm.	US-PGPUB; USPAT; USOCR	ADJ	ON	2008/10/09 13:54
L11	0	I1 and I2 and I3 and I4 and I5 and I6 and I8 and I9 and I10	US-PGPUB; USPAT; USOCR	ADJ	ON	2008/10/09 13:54
L13	56323	(heat exchang\$5 or exchang\$4distrib\$4).clm.	US-PGPUB; USPAT; USOCR	ADJ	ON	2008/10/09 13:55
L14	0	I1 and I2 and I3 and I4 and I13 and I6 and I8 and I9 and I10	US-PGPUB; USPAT; USOCR	ADJ	ON	2008/10/09 13:55
L15	1	I13 not I5	US-PGPUB; USPAT; USOCR	ADJ	ON	2008/10/09 13:56
S1	4083423	@ad< "20021219"	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/07 12:43
S2	42054	S1 and reform\$4	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/20 17:01

S3	39	S2 and (shift reactor or water gas shift) with cataly\$8 and heat exchang\$4 with water with steam and separat\$4 with water with steam	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/07 14:41
S4	6	((("20020152680") or ("20020094310") or ("20010014300") or ("20010002248") or ("6162267") or ("6375924"))).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2007/12/07 12:16
S5	0	S3 and S4	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/07 12:14
S6	5	S4 and heat exchang\$4	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/07 12:17
S7	4	S4 and heat exchang\$4 with (water or steam)	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/07 12:17
S8	6	S1 and (robert near sanger).in.	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/07 12:22
S9	6	S1 and (robert near2 sanger).in.	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/07 12:22
S10	0	S3 and S9	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/07 12:23
S11	3	S9 and heat exchang\$4 and reform\$4 and water and steam and separat\$4	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/07 12:24
S12	2	S9 and heat exchang\$4 with steam with water	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/07 12:25
S13	0	S9 and heat exchang\$4 with steam with water and separat\$4 with water with steam	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/07 12:37
S14	0	10/731352	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/07 12:38
S15	0	S2 and (shift reactor or water gas shift) with cataly\$8 and heat exchang\$4 with water with steam and separat\$4 with water with steam and riser	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/07 12:40

S16	0	S2 and (shift reactor or water gas shift) with (catalysts or catalyst stages) and heat exchange\$4 with water with steam and separat\$4 with water with steam and riser	US-PGPUB; USPAT; USOCR	ADJ	OFF	2007/12/07 12:41
S17	2	S2 and (shift reactor or water gas shift) with (catalysts or catalyst stages) and heat exchange\$4 with water with steam and separat\$4 with water with steam	US-PGPUB; USPAT; USOCR	ADJ	OFF	2007/12/07 12:41
S18	11145300	@pd< "20021219"	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/07 12:43
S19	18	S3 and S18	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/07 12:43
S20	21	S3 not S19	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/07 12:49
S21	4	((("7066973") or ("20020170846") or ("20010002248") or ("5052482")).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2007/12/07 13:38
S22	4	S21 and (reform\$4 or heat exchange\$4 or steam or water or separat\$4 or water gas shift or shift reactor or catalyst or distribut\$4 or conduit or channel or riser or stage)	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/07 13:47
S23	4	S21 and (reform\$4 or heat exchange\$4 or steam or water or separat\$4 or water gas shift or shift reactor or catalyst or distribut\$4 or conduit or channel or riser or stage or oxygen or "o.sub.2")	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/07 13:48
S24	4	S21 and (reform\$4 or heat exchange\$4 or steam or water or separat\$4 or water gas shift or shift reactor or catalyst or distribut\$4 or conduit or channel or riser or stage or oxygen or "o.sub.2" or air)	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/07 14:01

S25	4	S21 and (reform\$4 or heat exchang\$4 or steam or water or separat\$4 or water gas shift or shift reactor or catalyst or distribut\$4 or conduit or channel or riser or stage or oxygen or "o.sub.2" or air or hydrogen)	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/07 16:09
S26	3	S3 and S21	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/07 14:45
S27	2	S21 and reformer with shift reactor	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/07 14:46
S28	2	S21 and fuel with reform\$4	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/07 15:35
S29	3	S21 and water with shift reactor	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/07 15:35
S30	2	S21 and (separator)	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/07 16:15
S31	33	S2 and separator with steam with water and hydrogen and (water gas shift or shift reactor)	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/07 16:16
S32	31568	"48".clas.	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/07 16:16
S33	307	48/198.3.cds.	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/07 16:16
S34	8	S2 and separator with steam with water and hydrogen and (water gas shift or shift reactor) and S32	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/07 16:16
S35	0	10/731352	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/20 17:01
S36	4084140	@ad< "20021219"	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/20 17:04
S37	131	S36 and reformer and hydrogen and riser	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/20 17:04
S38	43	S36 and reformer and hydrogen and riser same separat\$4	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/20 17:05

S39	21	S36 and reformer and hydrogen and riser same separat\$4 same (steam or water)	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/20 17:47
S40	782	S36 and reformer and hydrogen and separat\$4 with (steam and water)	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/20 17:47
S41	4	S36 and reformer and hydrogen and separat\$4 with (steam and water) same gravity	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/20 17:48
S42	3	S36 and reformer and hydrogen and separat\$4 with (steam with water) same gravity	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/20 17:52
S43	1	("4344850").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2007/12/20 17:52
S44	1	S43 and (separat\$4 or steam or water or gravity)	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/20 17:56
S45	1	S43 and (catalyt\$8)	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/20 17:54
S46	1	S43 and (separat\$4 or steam or water or gravity or coolant)	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/20 18:34
S47	1	("7066973").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2007/12/20 18:34
S48	1	S47 and (ss or separator)	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/20 18:42
S49	607	S36 and reform\$4 and hydrogen and cataly\$8 and heat exchang\$4 and separat\$4 with water with steam	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/20 19:06
S50	333	S36 and reform\$4 and hydrogen and cataly\$8 and heat exchang\$4 with water and separat\$4 with water with steam	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/20 18:43
S51	131	S36 and reform\$4 and hydrogen and cataly\$8 and heat exchang\$4 with water and separat\$4 with water with steam and distribut\$4 with steam	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/20 18:43

S52	118	S36 and reform\$4 and hydrogen and cataly\$8 and heat exchang\$4 with water and separat\$4 with water with steam and distribut\$4 with steam and shift	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/20 18:43
S53	115	S36 and reform\$4 and hydrogen and cataly\$8 and heat exchang\$4 with water and separat\$4 with water with steam and distribut\$4 with steam and shift with cataly\$8	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/20 18:45
S54	20	S36 and reform\$4 and hydrogen and cataly\$8 and heat exchang\$4 with water and separat\$4 with water with steam and distribut\$4 with steam and shift with cataly\$8 not vinegar.in.	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/20 18:55
S55	1	("5052482").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2007/12/20 18:56
S56	1	S55 and (catalyst and separat\$4)	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/20 18:57
S57	1	S55 and (catalyst and separat\$4 and shift)	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/20 18:57
S58	500	S36 and reform\$4 and hydrogen and cataly\$8 and heat exchang\$4 and (separator or separating) near (water or steam) with (water or steam)	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/20 19:07
S59	70	S36 and reform\$4 and hydrogen and cataly\$8 and heat exchang\$4 and (separator or separating) near (water or steam) with (water or steam) and (water gas shift or shift reactor) with (cataly\$8 or water or carbon monoxide)	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/20 19:08
S60	42	S36 and reform\$4 and hydrogen and cataly\$8 and heat exchang\$4 and (separator or separating) near (water or steam) with (water or steam) and (water gas shift or shift reactor) with (cataly\$8)	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/20 19:08

S61	8	S36 and reform\$4 and hydrogen and cataly\$8 and heat exchang\$4 and (separator or separating) near (steam) with (water) and (water gas shift or shift reactor) with (cataly\$8)	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/20 19:09
S62	5	S36 and reform\$4 and hydrogen and cataly\$8 and heat exchang\$4 and (separator or separating) near (water) with (steam) and (water gas shift or shift reactor) with (cataly\$8)	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/20 19:09
S63	11	S61 or S62	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/20 19:10
S64	262	separat\$4 with water with steam and vinegar.in.	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/20 19:09
S65	1	("3938968").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2007/12/27 14:06
S66	4084551	@ad< "20021219"	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/27 14:07
S67	132	S66 and reform\$4 and hydrogen and cataly\$8 and heat exchang\$4 with water and separat\$4 with water with steam and distribut\$4 with steam	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/27 14:07
S68	119	S66 and reform\$4 and hydrogen and cataly\$8 and heat exchang\$4 with water and separat\$4 with water with steam and distribut\$4 with steam and shift	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/27 14:07
S69	116	S66 and reform\$4 and hydrogen and cataly\$8 and heat exchang\$4 with water and separat\$4 with water with steam and distribut\$4 with steam and shift with cataly\$8	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/27 14:07
S70	132	S67 or S68 or S69	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/27 14:07
S71	28	110-112	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/27 14:07

S72	0	I10-12	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/27 14:07
S73	1	S65 and separat\$4 with (steam or water)	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/27 14:27
S74	1	("20020152680").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2007/12/27 14:31
S75	4084551	@ad< "20021219"	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/27 14:55
S76	630	S75 and reformer with hydrogen and heat exchang \$4 with steam	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/27 14:55
S77	285	S75 and reformer with hydrogen and heat exchang \$4 with steam and (remov \$4 or separat\$4) with water with steam	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/27 14:56
S78	185	S75 and reformer with hydrogen and heat exchang \$4 with steam and (remov \$4 or separat\$4) with water with steam and (water gas shift or shift reactor)	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/27 14:56
S79	178	S75 and reformer with hydrogen and heat exchang \$4 with steam and (remov \$4 or separat\$4) with water with steam and (water gas shift or shift reactor) and cataly\$8	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/27 14:57
S80	48	S75 and reformer with hydrogen and heat exchang \$4 with steam same (remov \$4 or separat\$4) with water with steam and (water gas shift or shift reactor) and cataly\$8	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/27 14:57
S81	135	S75 and reformer with hydrogen and heat exchang \$4 with steam and heat exchang\$4 with (pathway or conduit or tube or pipe or pipeline) and (remov\$4 or separat\$4) with water with steam and (water gas shift or shift reactor) and cataly\$8	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/27 14:58



S82	21	S75 and reformer with hydrogen and heat exchange\$4 with (pathway or conduit or tube or pipe or pipeline) and heat exchange\$4 with steam same (remove\$4 or separate\$4) with water with steam and (water gas shift or shift reactor) and catalyst\$8	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/27 15:00
S83	12	S75 and reformer with hydrogen and heat exchange\$4 with (pathway or conduit or tube or pipe or pipeline) and heat exchange\$4 with steam same (remove\$4 or separating or separator or separate) with water with steam and (water gas shift or shift reactor) and catalyst\$8	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/27 15:01
S84	31	S75 and reformer with hydrogen and heat exchange\$4 with steam same (remove\$4 or separating or separator or separate) with water with steam and (water gas shift or shift reactor) and catalyst\$8	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/27 16:27
S85	4	((("20020004152") or ("4238468") or ("5360679") or ("6342197"))).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2007/12/27 16:06
S86	4	S85 and (remove\$4 or separate\$4) and steam and water and (water gas shift or shift reactor) and hydrogen and reformer and catalyst\$8	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/27 16:07
S87	4	S85 and reformer with hydrogen and heat exchange\$4 with steam same (remove\$4 or separating or separator or separate) with water with steam and (water gas shift or shift reactor) and catalyst\$8	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/27 16:40
S88	4	S85 and heat exchange\$4	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/12/27 16:40
S89	3	((("7066973") or ("5052482") or ("4344850"))).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2008/10/07 12:48

S90	7	(US-20020170846-\$ or US-20010002248-\$).did. or (US-5052482-\$ or US-7066973-\$ or US-6342197-\$ or US-6299994-\$ or US-4238468-\$).did.	US-PGPUB; USPAT	ADJ	ON	2008/10/07 13:23
S91	10	((("5052482") or ("7066973") or ("20020004152") or ("4238468") or ("5360679") or ("6342197") or ("3938968") or ("20020170846") or ("4344850") or ("20010002248"))).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2008/10/07 13:24
S92	0	10/731352	US-PGPUB; USPAT; USOCR	ADJ	ON	2008/10/07 13:34
S93	10	S91 and steam	US-PGPUB; USPAT; USOCR	ADJ	ON	2008/10/07 14:05
S94	0	(robert near2 sanger).in. and riser	US-PGPUB; USPAT; USOCR	ADJ	ON	2008/10/07 15:04
S95	6	(robert near2 sanger).in. and reform\$5	US-PGPUB; USPAT; USOCR	ADJ	ON	2008/10/07 15:04
S96	4098387	@ad< "20021219"	US-PGPUB; USPAT; USOCR	ADJ	ON	2008/10/07 15:06
S97	325	S96 and steam with reform \$5 and heat exchang\$4 same (evapor\$5 or vapor \$5) with water with steam	US-PGPUB; USPAT; USOCR	ADJ	ON	2008/10/07 15:06
S98	227	S96 and steam with reform \$5 and heat exchang\$4 same (evapor\$5 or vapor \$5) with water with steam not (wellington or vinegar). in.	US-PGPUB; USPAT; USOCR	ADJ	ON	2008/10/07 15:13
S99	44	S96 and steam with reform \$5 and heat exchang\$4 same ((evapor\$5 or vapor \$5) and separat\$4) with water with steam not (wellington or vinegar).in.	US-PGPUB; USPAT; USOCR	ADJ	ON	2008/10/07 15:14
S100	2	((("5052482") or ("7066973"))).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2008/10/07 15:23

S101	2	S100 and (dimension or feet or meter or length or width or height)	US-PGPUB; USPAT; USOCR	ADJ	ON	2008/10/07 15:23
S102	183	S98 not S99	US-PGPUB; USPAT; USOCR	ADJ	ON	2008/10/07 16:16
S103	15	("2821843"   "3635200"   "3682142"   "3828736"   "3897225"   "3920416"). PN. OR ("4008692").URPN.	US-PGPUB; USPAT; USOCR	ADJ	ON	2008/10/07 17:31
S104	1	("4008692").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2008/10/07 17:32
S105	1	S104 and (co or carbon monoxide)	US-PGPUB; USPAT; USOCR	ADJ	ON	2008/10/07 17:32
S106	111	water gas shift with endothermic	US-PGPUB; USPAT; USOCR	ADJ	ON	2008/10/07 17:47
S107	304	water gas shift with exothermic	US-PGPUB; USPAT; USOCR	ADJ	ON	2008/10/07 17:47
S108	1	("4008692").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2008/10/09 10:56
S109	1	S108 and (carbon monoxide or co)	US-PGPUB; USPAT; USOCR	ADJ	ON	2008/10/09 11:03
S110	4098388	@ad< "20021219"	US-PGPUB; USPAT; USOCR	ADJ	ON	2008/10/09 11:18
S111	1	S110 and steam with distribut\$4 with arm and reform\$5	US-PGPUB; USPAT; USOCR	ADJ	ON	2008/10/09 11:18

10/ 9/ 2008 2:04:30 PM

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